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| Notice of Allowability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Application No. Applicant(s)                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Examiner                                                                                                                                                                                                                                                                                                                                                         | Art Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sana Al-Hashemi                                                                                                                                                                                                                                                                                                                                                  | 2161                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | *                              |  |
| The MAILING DATE of this communication apperall claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIP of the Office or upon petition by the applicant. See 37 CFR 1.313                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (OR REMAINS) CLOSED in the or other appropriate communing GHTS. This application is subsection is subsection                                                                                                                                                                                                                                                     | nis application. If not incli<br>ication will be mailed in du                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | uded<br>ue course. <b>THIS</b> |  |
| 2. ☑ The allowed claim(s) is/are <u>1-42</u> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |  |
| 3. ☑ The drawings filed on <u>21 November 2001</u> are accepted by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | the Examiner.                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |  |
| 4. Acknowledgment is made of a claim for foreign priority un a) All b) Some* c) None of the:  1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 3. Copies of the certified copies of the priority documents have International Bureau (PCT Rule 17.2(a)).  * Certified copies not received:  Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONM THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.  5. A SUBSTITUTE OATH OR DECLARATION must be submit INFORMAL PATENT APPLICATION (PTO-152) which give 3. CORRECTED DRAWINGS (as "replacement sheets") mus (a) including changes required by the Notice of Draftspers 1) hereto or 2) to Paper No./Mail Date  (b) including changes required by the attached Examiner's Paper No./Mail Date  Identifying indicia such as the application number (see 37 CFR 1. each sheet. Replacement sheet(s) should be labeled as such in the post attached Examiner's comment regarding REQUIREMENT is attached E | been received in Application cuments have been received in Application cuments have been received in this communication to file a ENT of this application.  Itted. Note the attached EXAMES reason(s) why the oath or determined to be submitted.  It be submitted.  It is Amendment / Comment or in the header according to 37 CFR.  Is it of BIOLOGICAL MATER. | No In this national stage appliance of the Office action of the O | requirements r NOTICE OF       |  |
| Attachment(s)  1. Notice of References Cited (PTO-892)  2. Notice of Draftperson's Patent Drawing Review (PTO-948)  3. Information Disclosure Statements (PTO-1449 or PTO/SB/0 Paper No./Mail Date  4. Examiner's Comment Regarding Requirement for Deposit of Biological Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6. ☐ Interview Sum<br>Paper No./Ma<br>8), 7. ⊠ Examiner's Ar                                                                                                                                                                                                                                                                                                     | mal Patent Application (Formary (PTO-413), ail Date mendment/Comment atement of Reasons for A ALFORD KI PRIMARY EX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Allowance<br>NURED             |  |

### **DETAILED ACTION**

- 1. This action is issued in response to applicant Request for Continued Examination (RCE) field 4/08/2005.
- 2. Claims 1, 21, and 39, have been amended. Claims 43-86 were canceled. No new claims were added.
- 3. Claims 1-42 are allowed.
- 4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 21, 2004 has been entered.

## **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph Villeneuve on May 3, 2005.

## Authorization for Examiner's amendment

Examiner Sana al-Hashemi is hereby authorized to amend claims 1 and 21 of U.S. Patent Application No. 09/990,188 as follows:

Application/Control Number: 09/990,188

Art Unit: 2161

Please replace Claims 1, and 21 with the following:

1. (Currently amended) At least one computer-readable medium having computer program instructions embodied therein for interacting with at least one knowledge base, the at least one knowledge base having data stored therein representing first knowledge about a plurality of objects using a plurality of relationships between pairs of the objects and temporal data representing temporal validity for at least some of the relationships, the computer program instructions comprising:

first computer program instructions operable to interact with the at least one knowledge base and, in response to a query having a predetermined format, generate second knowledge not represented in the at least one knowledge base from the first knowledge, the data representing the first knowledge including temporal data representing temporal validity for at least some of the relationships; and

second computer program instructions operable to respond to the query using at least one of the first knowledge and the second knowledge.

21. (Currently amended) A computer-implemented method for interacting with at least one knowledge base, the at least one knowledge base having data stored therein representing first knowledge about a plurality of objects using a plurality of relationships between pairs of the objects and temporal data representing temporal validity for at least some of the relationships, the method comprising:

interacting with the at least one knowledge base and, in response to a query having a predetermined format, generating second knowledge not represented in the at least one

Art Unit: 2161

knowledge base from the first knowledge, the data representing the first knowledge including temporal data representing temporal validity for at least some of the relationships; and

responding to the query having a predetermined format using at least one of the first knowledge and the second knowledge.

# Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

Regarding independent claims 1, 21, and 39, the prior art of record fails to disclose or suggest the claimed provision of: first computer program instructions operable to interact with the at least one knowledge base and, in response to a query having a predetermined format, generate second knowledge not represented in the at least one knowledge base from the first knowledge, the data representing the first knowledge including temporal data representing temporal validity for at least some of the relationships; and second computer program instructions operable to respond to the query using at least one of the first knowledge and the second knowledge, combined with the rest of the limitations in the independent claims, is not taught or suggested, or rendered obvious over the prior art of record or that encountered in searching the invention

The dependent claims 2-20, 22-38, and 40-42, being further limiting to the independent claims, definite and enabled by the Specification are also allowed.

#### Comments

Application/Control Number: 09/990,188

Art Unit: 2161

The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. In no case may an applicant reply outside the SIX (6) MONTH statutory period or obtain an extension for more than FIVE (5) MONTHS beyond the date for reply set forth in an Office action. A fully responsive reply must be timely filed to avoid abandonment of this application.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

As allowable subject matter has been indicated, Applicant's response must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CRF 1.111(b) and MPEP section 707.07(a).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

## Other Prior Art Made of Record

1- Ahmed et al. (US Patent No. 5,809,493) discloses a knowledge processing system employing confidence levels.

Art Unit: 2161

2- Paik et al. (US Patent No. 6,263,335) discloses a Information extraction system and method using concept-relation-concept (CRC) triples.

- 3- Busey et al. (US Patent No. 6,377,944) discloses Web response unit including computer network based communication.
- 4- Preston (US Patent No. 6,446,081) discloses a Data input and retrieval apparatus.

# Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sana Al-Hashemi whose telephone number is (571) 272-4013. The examiner can normally be reached on Monday - Friday from 8:00 AM to 4:30 PM.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (571) 272-4023. Any response to this office action should be mailed to: The Commissioner of Patents and Trademarks, Washington, D.C. 20231. Or telefax at phone number (703) 872-9306. For formal or draft communications, please label "PROSPOSED" or "DRAFT". Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, 6<sup>th</sup> Floor Receptionist, Arlington, Virginia. 22202.

Sana Al-Hashemi Patent Examiner Technology Center 2100 May 3, 2005

ALFORD KINDRED PRIMARY EXAMINER